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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/029,925	12/31/2001	Harald Timm	19086.3	5898

7590 05/17/2004

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Bergwaldstr. 1
Karlsruhe, D-76227
GERMANY

EXAMINER

DUNWOODY, AARON M

ART UNIT	PAPER NUMBER
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3679

DATE MAILED: 05/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/029,925

Applicant(s)

TIMM, HARALD

Examiner

Aaron M Dunwoody

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 7, 8, 10-13, 15, 16 and 21-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7, 8, 10-13, 15, 16 and 21-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/21/2004 has been entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 7, 8 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by US patent 4712642, Lalikos et al.

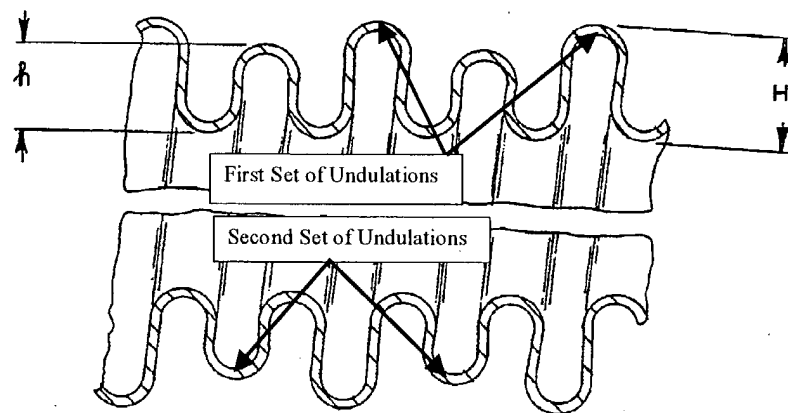
In regards to claim 1, in Figures 3 below, Lalikos et al discloses a bending pipe element made of metal for bending pipe sections and for return pipes in internal combustion automobile engines, the pipe element comprising

a first set of undulations having a first outer diameter; and

a second set of undulations having a second outer diameter which is less than the first outer diameter, the first and the second sets of undulations being disposed one behind the other in a longitudinal extension of the pipe element,

wherein the second set of undulations is interposed between neighboring pairs of the first set of undulations and the first set of undulations is interposed between neighboring pairs of the second set of undulations,

wherein, in an unbent state of the pipe element, each of the first set of undulations extends through a convex, substantially circular first arc and joins a first straight segment extending substantially transverse to the longitudinal extension of the pipe element, the first straight segment joining a concave, substantially circular second arc, the second arc joining a second segment, the second segment joining onto a neighboring one of the second set of undulations extending through a convex, substantially circular third arc, the third arc joining a third segment, the third segment joining a concave, substantially circular fourth arc, the fourth arc joining a fourth straight segment extending substantially parallel to the first straight segment, the fourth straight segment joining a neighboring one of the first set of undulations having the first arc, wherein the first arc, the second arc, the third arc, and the fourth arc have substantially equal radii of curvature.

**FIG. 3**

In regards to claim 7, Lalikos et al discloses in the unbent pipe element, an inner radius and an outer radius of the first and the second set of undulations describing circular arcs of between 175° to 230°.

In regards to claims 8 and 25, Lalikos et al discloses in the unbent pipe element, an inner radius and an outer radius of the first and the second set of undulations describing a circular arc of approximately 180°.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 3, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lalikos et al.

In regards to claims 2 and 3, Lalikos et al discloses the claimed invention except for the first outer diameter of the first set of undulations exceeding the second outer diameter of the second set of undulations by 5% to 20%, relative to the second outer diameter; or the first outer diameter exceeding the second outer diameter by 10% to 15%, relative to the second outer diameter. It would have been obvious to one having ordinary skill in the art at the time the invention was made to fabricate the first outer diameter of the first set of undulations to exceed the second outer diameter of the second set of undulations by 5% to 20%, relative to the second outer diameter; or fabricate the first outer diameter so as to exceed the second outer diameter by 10% to 15%, relative to the second outer diameter, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

In regards to claims 12 and 13, Lalikos et al discloses the claimed invention except for the first and the second sets of undulations being fashioned from a wall thickness of between 0.2mm and 0.5mm, or the first and the second sets of undulations

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being fashioned from a wall thickness of approximately 0.4mm. It would have been obvious to one having ordinary skill in the art at the time the invention was made to fabricate the first and the second sets of undulations from a wall thickness of between 0.2mm and 0.5mm, or fabricate the first and the second sets of undulations from a wall thickness of approximately 0.4mm, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Claims 10, 11, 15, 16 and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lalikos et al in view of US patent 4458722, Dahn.

In regards to claims 10 and 21, Lalikos et al discloses the claimed invention except for straight sections being disposed in the unbent pipe element between the inner and outer radius of the approximately circular segment shaped first and second sets of undulations, or substantially cylindrical, non-undulated connecting ends. Dahn discloses straight sections (25, 26) being disposed in the unbent pipe element (10) between undulations (11,16), and substantially cylindrical, non-undulated connecting ends (25, 26) to connect with the exhaust system of an automobile. It would have been obvious to one having ordinary art at the time the invention was made to fabricate straight sections disposed in the unbent pipe element between undulations, and fabricate substantially cylindrical, non-undulated connecting ends to connect with the exhaust system of an automobile.

In regards to claims 11 and 22, Lalikos et al in view of Dahn discloses the claimed invention except for an average outer diameter of the first and the second sets of undulations exceeding an outer diameter of the connecting ends by 10% to 35%, relative to the outer diameter of the connecting ends. It would have been obvious to one having ordinary skill in the art at the time the invention was made to fabricate an average outer diameter of the first and the second sets of undulations to exceed an outer diameter of the connecting ends by 10% to 35%, relative to the outer diameter of the connecting ends, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

In regards to claims 15 and 16, Lalikos et al discloses the claimed invention except for the first outer diameter of the first set of undulations exceeding the second outer diameter of the second set of undulations by 5% to 20%, relative to the second outer diameter; or the first outer diameter exceeding the second outer diameter by 10% to 15%, relative to the second outer diameter. It would have been obvious to one having ordinary skill in the art at the time the invention was made to fabricate the first outer diameter of the first set of undulations to exceed the second outer diameter of the second set of undulations by 5% to 20%, relative to the second outer diameter; or fabricate the first outer diameter so as to exceed the second outer diameter by 10% to 15%, relative to the second outer diameter, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

In regards to claims 23 and 24, Lalikos et al discloses the claimed invention except for the first and the second sets of undulations being fashioned from a wall thickness of between 0.2mm and 0.5mm, or the first and the second sets of undulations being fashioned from a wall thickness of approximately 0.4mm. It would have been obvious to one having ordinary skill in the art at the time the invention was made to fabricate the first and the second sets of undulations from a wall thickness of between 0.2mm and 0.5mm, or fabricate the first and the second sets of undulations from a wall thickness of approximately 0.4mm, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Response to Arguments

Applicant's arguments with respect to claims 1-3, 7-13, 15, 16 and 21-24 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure because it illustrates the inventive concept of the invention.

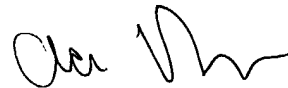
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron M Dunwoody whose telephone number is 703-306-3436. The examiner can normally be reached on 7:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P Stodola can be reached on 703-306-5771. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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